

REMARKS

In the Office Action mailed September 28, 2005, the Examiner rejected claims 1, 2, 8-15, 19, 21, 23, and 24 under 35 U.S.C. §103(a) as being unpatentable over *Hind* (U.S. Pat. No. 6,823,454) in view of *Rowney* (U.S. Pat. No. 5,996,076). The Examiner further rejected claims 3-7, 16, 18, 22, and 25 under 35 U.S.C. §103(a) as being unpatentable over *Hind* in view of *Rowney* and further in view of *Loukianov* (U.S. Pat. No. 6,715,075). Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Hind* in view of *Rowney* and further in view of *Kent* (U.S. Pat. No. 6,671,804). Finally, the Examiner rejected claim 17 under 35 U.S.C. §103(a) as being unpatentable over *Hind* in view of *Rowney* and further in view of *Loukianov* and *Kent*. For the reasons given below, Applicants respectfully submit that the references taken alone or in combination do not disclose, teach, or even suggest the presently claimed invention.

Present Application

The present application is directed toward a method and system for dynamic digital certificate installation on a cable modem. The digital certificate is required to authenticate the cable modem on a Cable Modem Termination System (CMTS) when using a Baseline Privacy Plus Interface (BPI+) Specification. In one embodiment, when a cable modem determines that there is no digital certificate installed in its memory unit, the cable modem requests a digital certificate from a predetermined network server, such as a predetermined Trivial File Transfer Protocol (TFTP) server. When the network server receives the request, the network server generates at least one digital certificate and provides it to the cable modem. Upon receipt of the digital certificate, the cable modem installs it in its memory unit.

Response to Rejections under 35 U.S.C. §103(a)

As explained below, in contrast with amended independent claims 1, 14, and 21, *Hind*, *Rowney*, *Loukianov*, and *Kent* fail to disclose determining whether a digital certificate is installed on a cable modem, and if not, the cable modem receiving a digital certificate from a predetermined network server, such as a TFTP server, for authentication on a Cable Modem Termination System (CMTS).

Regarding claim 1, neither *Hind* nor *Rowney* disclose, teach, or suggest the step of determining whether a digital certificate is installed on a cable modem, and if not, then proceeding with the steps of requesting, receiving, and storing the certificate from a predetermined network server, such as a TFTP server. The Examiner submits that *Hind* discloses this determining step, and points to column 14, l. 1-3 and col. 13, l. 58-64 of the *Hind* reference as support. Applicants submit that these sections of *Hind* merely state the general methods by which a digital certificate may be obtained by a network device (*e.g.*, by being installed during the manufacturing process, or alternatively by being obtained from a Certificate Authority). *Hind* does not disclose a network device, let alone a cable modem, determining whether a digital certificate is installed, and if not, requesting, receiving, and storing a digital certificate from a predetermined network server, such as a TFTP server. Similarly, *Rowney* does not disclose, teach, or suggest such a determining step. Accordingly, the rejection is improper and should be withdrawn.

Further, *Hind* and *Rowney* fail to disclose a digital certificate being generated on a cable modem for authenticating the cable modem on a CMTS. In fact, Applicants submit that *Rowney* is a non-analogous reference. To rely on a reference under 35 U.S.C. §103, it must be an

analogous reference. A reference is analogous if (i) the reference is in the field of Applicant's endeavor or, if not, (ii) the reference is reasonably pertinent to the particular problem with which the inventor was concerned. (MPEP § 2141.01(a)). *Rowney* is not in the field of Applicants' endeavor, *i.e.*, the authentication of cable modems on a CMTS via digital certificates, but rather is related to secure transactions with financial institutions.

Moreover, *Rowney* is not reasonably pertinent to the particular problem with which the inventors of the present application were concerned. A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. (MPEP § 2141.01(a)). Presently, the inventors were interested in determining if a digital certificate is installed on a cable modem, and if not, requesting, receiving, and storing a digital certificate on the cable modem from a predetermined network server, such as a TFTP server. (Specification, p. 25). A person having ordinary skill in the cable modem art would not reasonably have expected to solve the problem of dynamically obtaining a digital certificate on the modem by considering references dealing with security transactions with financial institutions. (MPEP § 2141.01(a)).

Like *Rowney*, *Hind* does not mention or disclose the generation of digital certificates on cable modems or the authentication of cable modems on a CMTS via digital certificates. The Examiner admits this, on page 6 of the Office Action, and states that *Loukianov* teaches a cable modem and a network server comprising a TFTP server. Applicants respectfully disagree, and submit that the cable modem disclosed in *Loukianov* already has a digital certificate installed on it. In other words, the cable modem in *Loukianov* does not request, receive, and store a digital

certificate after it has been manufactured, as in the present application. For example, col. 3, l. 45-55 of *Loukianov*, which was cited by the Examiner, reads "modem 4 replies to the SNMP query with a certificate containing authentication information, which can be verified by authentication server 32." Applicants submit that the certificate referred to in that excerpt is the cable modem's digital certificate which was installed on the modem during manufacturing, and not generated and issued by a predetermined network server, such as a TFTP server. Therefore, *Loukianov* fails to disclose a cable modem, which requests, receives, and stores a digital certificate from a predetermined network server, such as a TFTP server. The rejection is therefore improper and should be withdrawn.

Even if *Hind*, *Rowney*, or *Loukianov* did disclose the authentication of a cable modem on a CMTS via digital certificates, to establish a *prima facie* case of obviousness under § 103 there must be some suggestion or motivation to combine or modify the cited references, and the cited references must teach or suggest all the claim limitations. (MPEP § 2142). Applicants contend that no motivation exists for combining *Hind*, *Rowney*, and *Loukianov* to obviate the present claims. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. (MPEP § 2143). Thus, "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." (MPEP § 2143.01). Consequently, to make a successful §103(a) obviousness rejection, the Office must show some objective teaching in the prior art or explain how one of ordinary skill in the art would be

motivated to combine the relevant teachings. Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

Applicants submit that there is no teaching or suggestion within *Hind*, *Rowney*, or *Loukianov* to make the proposed combination. *Hind* is directed toward using device certificates to authenticate servers, *Rowney* is directed toward creating secure transactions with financial institutions, and *Loukianov* is directed toward providing a configuration file to a communication device. None of the references include a suggestion or motivation to combine with any teachings of the other references.

Furthermore, the Examiner has not shown any objective teaching in *Hind*, *Rowney*, or *Loukianov* to explain how one of ordinary skill in the art would be motivated to combine their teachings. The Examiner contended that "it would have been obvious to a person of ordinary skill in the art at the time invention was made to combine the teaching of *Rowney* within the system of *Hind* because *Rowney* teaches a secure and flexible certificate delivery and installation method over a public communication system, such as internet." (Office Action p. 3). Applicants respectfully disagree because *Hind* deals with the use of device certificates to authenticate servers and is not concerned with the creation of the certificates, as disclosed in *Rowney*. The Examiner further stated that "it would have been obvious to a person of ordinary skill in the art at the time invention was made to combine the teaching of *Loukianov* within the system of *Hind* as modified because (a) *Hind* teaches device certificate authentication mechanism and (b) *Loukianov* teaches providing a secure device certificate method for cable modem systems by using a hash signature." (Office Action p. 6-7). Applicants respectfully disagree. The secure device certificate method in *Loukianov* that the Examiner is referring to involves the relationship between the cable modem and the computer, not the relationship between the cable modem and a

network server. Furthermore, *Hind* may teach a device certificate authentication mechanism, but it does not teach a method for determining whether a digital certificate is installed on a network device, and if not, then proceeding with the steps of requesting, receiving, and storing the certificate from a predetermined network server, such as a TFTP server, as described in the present claims.

Conclusion

Applicants submit that the application is in condition for allowance and respectfully request the Office to pass this application to issue. If, in the opinion of the Office, a telephone conference would expedite the prosecution of this application, the Office is invited to call the undersigned at 312-913-3334.

Respectfully submitted,

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